REMARKS

Overview of the Office Action

Claims 3 and 5 have been objected to for various informalities.

Claims 1-7 have been rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 4,935,665 to Murata ("Murata") in view of Japanese Patent Pub. No. JP2001085748 to Kimura et al. from the IDS filed March 30, 2005 ("Kimura").

Claim 8 has been rejected under 35 U.S.C. §103(a) as unpatentable over Murata in view of Kimura, and further in view of U.S. Patent No. 6,545,332 to Huang ("Huang").

Status of the claims

Claims 1-6 and 8 have been amended.

Claims 1-8 remain pending.

Objections to the claims

Claim 3 has been objected to because the "frame part" lacks sufficient antecedent basis.

Claim 5 has been objected to because the "printed circuit board" lacks sufficient antecedent basis.

Claims 3 and 5 have been amended to provide sufficient antecedent basis.

Applicants submit that these objections have now been overcome.

Summary of subject matter disclosed in the specification

The following descriptive details are based on the specification. They are provided only for the convenience of the Examiner as part of the discussion presented herein, and are not intended to argue limitations which are unclaimed.

The disclosed light source module includes a plurality of LEDs connected to a metal carrier by means of an insulating layer. In order to afford protection against mechanical effects and in order to form a reflector, the LEDs are surrounded by a frame, which is segmented into a plurality of parts by expansion joints. Stresses occurring as a result of temperature fluctuations are absorbed by the expansion joints.

Descriptive summary of Murata

Murata discloses a light emitting diode lamp. The LED lamp includes an insulated metallic board that has a plurality of hollows thereon. Each of the plurality of hollows has a light emitting diode mounted on the bottom thereof, and a light-reflecting surface on the side wall thereof. A lens plate collects direct light from the light emitting diode and light reflected by the reflecting surfaces of each of the hollows.

Descriptive summary of Kimura

Kimura discloses a light emitting device that has a substrate where LED chips are mounted. A frame is arranged on the substrate. The frame has trough-holes at the positions of the LED chips. The frame is formed of hard sites and soft sites. The soft sites have a spring-like nature and absorb and relax thermal expansion and thermal contraction.

Claims 1-7 are allowable over Murata and Kimura under 35 U.S.C. § 103(a)

The Office Action states that the combination of Murata and Kimura teaches all of the elements recited in Applicants' claims.

Independent claim 1 has been amended to point out more clearly the subject matter that the Applicants regard as the invention. Specifically, claim 1 has been amended to recite a light source module that has a plurality of LEDs connected to a metal carrier in an insulating manner. The LEDs are surrounded by a frame, and potting composition is arranged between the frame and the LEDs. The frame includes expansion joints, wherein a separating cut is provided in the expansion joints. Support for the claim amendment can be found in paragraph 0039 of the published specification.

The Examiner concedes that Murata fails to teach or suggest that the frame has expansion joints. Further, Murata fails to teach or suggest that a separating cut is provided in the expansion joints.

The Examiner cites Fig. 2A of Kimura as teaching that a light source module having a plurality of LEDs wherein the LEDs are surrounded by a frame of plastic and the frame has expansion joints in order to ease the stress of thermal expansion. Applicants submit that the cited figure of Kimura does not teach or suggest the subject matter recited in Applicants' now amended independent claim 1.

It is an object of Applicants' invention to demonstrate a light source module that withstands greatly varying temperature conditions. This object is achieved because the LEDs are surrounded by a frame, potting composition is arranged between the frame and LEDs, and the frame has expansion joints. Further, a separating cut is provided in the expansion joints so that separate frame parts, which are produced by means of the separating cut, are moveable against

each other during thermal expansion or contraction, thereby preventing the light source module from being damaged during thermal expansion or contraction. In comparison to a single, large expansion joint, the expansion joint with a separating cut recited in Applicants' amended independent claim 1 allows more flexibility of the entire light source module.

Kimura does not teach or suggest expansion joints, wherein a separating cut is provided in the expansion joints, as now expressly recited in independent claim 1. In contrast, Fig. 2A of Kimura shows soft sites 9 of a frame having a reduced thickness but which remain connected. There is no separating cut in any of the soft sites shown in Fig. 2A.

Further, it is an object of Murata to provide a light emitting diode lamp, which has an increased power of illumination. However, Murata does not teach or suggest a relationship between increased power of illumination and different coefficients of expansion of the insulated metallic board and the supplementary light reflecting plate. Therefore, it would not have been obvious to one skilled in the art to modify the lamp taught by Murata by adding the soft sites taught by Kimura. However, even if the soft spots of Kimura were combined with the teachings of Murata, the combination still fails to teach or suggest "wherein a separating cut is provided in the expansion joints", as recited in independent claim 1.

In view of the foregoing, it is respectfully submitted that Murata and Kimura, whether taken alone or in combination, do not teach or suggest the subject matter recited in Applicants' amended independent claim 1. Accordingly, claim 1 is patentable thereover under 35 U.S.C. §103(a).

Dependent claims

Claims 2-7, which depend directly or indirectly from independent claim 1, incorporate all of the limitations of independent claim 1 and are, therefore, deemed to be patentably distinct over Murata and Kimura for at least those reasons discussed above with respect to independent claim 1.

Claim 8 is allowable over Murata, Kimura, and Huang under 35 U.S.C. § 103(a)

The Office Action states that the combination of Murata, Kimura, and Huang teaches all of the elements recited in Applicants' claims.

Murata and Kimura have been previously discussed and do not teach or suggest the invention recited in Applicants' amended independent claim 1.

Because Murata and Kimura do not teach or suggest the subject matter recited in Applicants' amended independent claim 1, and because Huang does not teach or suggest any elements of the independent claims that Murata and Kimura are missing, the addition of Huang to the reference combination fails to remedy the non-obviousness of the claims.

Claim 8, which depends indirectly from amended independent claim 1, incorporates all of the limitations of amended independent claim 1 and is therefore deemed to be patentably distinct over the combination of Murata, Kimura, and Huang for at least those reasons discussed above for independent claim 1.

Conclusion

In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of all rejections, and allowance of all pending claims in due course.

Should the Examiner have any comments, questions, suggestions, or objections, the Examiner is respectfully requested to telephone the undersigned in order to facilitate reaching a resolution of any outstanding issues.

Respectfully submitted,

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